

What is claimed is:

*Sub A2* → 1. A portable data collection device comprising: a display; manual data entry circuitry; a processor for receiving entered data and for controlling the display; a first wireless communication circuit for receiving data using a first protocol over short range from at least one data transmitting unit; a second wireless communication circuit using a second protocol for transmitting and receiving data over a long range from a host; wherein the processor is receptive of identification data relating to the at least one data transmitting unit for field associating at least one data transmitting unit with the portable data collection device.

2. The device according to claim 1, wherein the at least one data transmitting unit is a bar code reader and wherein the identification data comprises information on a bar code associated with the portable data collection device and a unique identification of the at least one data transmitting unit.

*Sub A3* → 3. The device according to claim 2, wherein the bar code is affixed to the portable data collection device.

4. The device according to claim 1, wherein the processor is receptive of a unique identification of the at least one data transmitting unit through the manual data entry circuitry for field associating.

5 . The device according to claim 1, further comprising a cradle for the at least one data transmitting unit and wherein the processor is receptive of the identification data relating to a cradled data transmitting unit for field associating.

6 . The device according to claim 5, wherein the at least one data transmitting unit has a rechargeable battery therein and wherein the battery is recharged when the unit is cradled.

7 . A portable data collection device comprising: a touch-sensitive display; manual data entry circuitry comprising a portion of the display; a processor for receiving entered data and for controlling the display to depict a keypad array of discrete keypad areas each representing at least one of alphanumerics and icons on the display and corresponding to data to be entered by actuating same, wherein the processor reconfigures the array of alphanumerics and icons for different operations; a first wireless communication circuit for receiving data over short range from at least one data transmitting device; and a second wireless communication circuit for transmitting and receiving data over a long range from a host.

8 . The device according to claim 7, wherein the processor reconfigures the keypad array in anticipation of an action to be performed by a user.

9 . The device according to claim 7, further comprising a light pipe over each discrete keypad area of the keypad array and wherein each light pipe is mounted for

movement towards and away from the display to effect an actuation of the key associated with the keypad area thereunder.

10. The device according to claim 9, wherein the light pipes are mounted on a resilient web.

11. The device according to claim 9, wherein each light pipe has a lens at one end away from the display.

12. The device according to claim 9, further comprising a frame for the light pipes having an opening for each light pipe and disposed over the display.

13. The device according to claim 12, wherein the frame and light pipes are mounted for displacement from the display to enlarge the area thereof for use by the processor.

14. The device according to claim 13, wherein the frame and light pipes are slidably mounted for displacement away from the display.

15. The device according to claim 13, wherein the frame and light pipes are hingedly mounted for displacement away from the display.

16. A data collection system comprising: at least one data transmitting unit for scanning bar codes and for producing a decode signal representative of a scanned bar code and having communication circuitry for the wireless transmission of the decode

*Sub A4* →

signal over a short range using a first protocol; and a portable data collection device comprising a display, manual data entry circuitry, a processor for receiving entered data and for controlling the display, a first communication circuit for receiving data from the at least one data transmitting unit using the first protocol over a short range and a second communication circuit using a second protocol for wireless transmitting and receiving of data over a long range from a host.

17. The data collection system according to claim 16, wherein the at least one data transmitting unit comprises a light source, a scan element, a scan motor for moving the scan element, a photodetector, signal processing circuitry for receiving a signal from the photodetector, triggering circuitry for initiating a scan, and power management circuitry for controlling the light source, scan motor and signal processing circuitry to stagger the activation thereof upon the initiating of a scan by the triggering circuitry.

18. The data collection system according to claim 17, wherein the at least one data transmitting unit further comprises decode circuitry for decoding the signal received from the photodetector.

19. The data collection system according to claim 16, further comprising a headset receptive of a voice input for producing voice signals and having communication circuitry for the wireless transmission of the voice signals over a short range using the first protocol.

20 . The data collection system according to claim 16, wherein the processor monitors the distance of the at least one data transmitting unit from the portable data collection device to indicate when the distance exceeds a given distance.

21 . The data collection system according to claim 16, wherein the processor controls the display to depict a keypad array of discrete keypad areas, each representing at least one of alphanumerics and icons on the display and corresponding to data to be entered by actuating same and wherein the processor reconfigures the array of alphanumerics and icons for different operations.

22 . The data collection system according to claim 21, wherein the portable data collection device has a cradle for docking at least one data transmitting unit.

23 . The data collection system according to claim 22, wherein the processor reconfigures the array on the display to depict at least one start scan key to initiate scanning on the at least one data transmitting unit.

24 . The data collection system according to claim 23, wherein the processor reconfigures the array on the display to depict a start scan key for a right handed user and for a left handed user.

25. The data collection system according to claim 16, wherein the at least one data transmitting unit is associated with the portable data collection device and wherein the device communicates with each unit to lower the transmit power thereof.

*Sub A4* → 26. The data collection system according to claim 16, wherein the at least one data transmitting unit is associated with the portable data collection device and wherein the device communicates with each unit to agree to transmit at given time intervals.

27. The data collection system according to claim 16, wherein the at least one data transmitting unit is associated with the portable data collection device and wherein the device communicates with each unit to detect the remaining available power in each unit to indicate power status to the user.

28. A portable data collection device comprising: a display; manual data entry circuitry; a processor for receiving entered data and for controlling the display; a first wireless communication circuit for receiving data using a first protocol over short range from at least one data transmitting unit; a second wireless communication circuit using a second protocol for transmitting and receiving data over a long range from a host; and a housing for the display, manual entry circuitry, processor and communication circuits, wherein the housing has a connector for receiving a pc card and pc card connector for adding functionality to the device.

29. A portable data collection device comprising: a display; manual data entry circuitry; a processor for receiving entered data and for controlling the display; a first wireless communication circuit for receiving data using a first protocol over short range from at least one data transmitting unit; a second wireless communication circuit using a second protocol for transmitting and receiving data over a long range from a host; and a housing for the display, manual entry circuitry, processor and communication circuits, wherein the housing has two separate sections having bosses for connecting the sections together and wherein the bosses are overmolded with shock resistant material to provide a shock mount for components in the housing.

30. A portable data collection device comprising: a display; manual data entry circuitry; a processor for receiving entered data and for controlling the display; a first wireless communication circuit for receiving data using a first protocol over short range from at least one data transmitting unit; a second wireless communication circuit using a second protocol for transmitting and receiving data over a long range from a host; and a housing for the display, manual entry circuitry, processor and communication circuits; a scan module mounted in the housing for pivotal movement and a manually actuated member on the outside of the housing for pivoting the scan module.

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